CLAIMS

What is claimed is:

1. A system for protecting a wavelength division multiplexing optical communications network operating at the link, wavelength and fiber layers, comprising:

a plurality of failure detectors at predetermined positions in each of the link, wavelength and fiber layers for detecting communication failures of paths in the network and generating failure signals in response thereto;

a plurality of protection switching elements at predetermined network connections in each of the link, wavelength and fiber layers for receiving said failure signals and controlling the protection switching in response thereto;

a first set of intralayer communication channels within each of said link, wavelength and fiber layers for sending said failure signals between said failure detectors and said protection switching elements in respective ones of said link, wavelength and fiber layers; and

a second set of interlayer communication channels between adjacent ones of said link, wavelength and fiber layers for sending said failure signals between said failure detectors and said protection switching elements in adjacent ones of said link, wavelength and fiber layers so that alternate communication paths may be developed in response to said failure signals and said switching signals when the communication failures are detected.

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